

STAGE 1 PRELIMINARY UXO RISK ASSESSMENT

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Innovation Centre Medway, Maidstone
Road, Chatham, ME5 9FD
020 7117 2492
www.brimstoneuxo.com

Client: Icen Projects
Project: Renshaw House, Manchester
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INTRODUCTION

The Stage 1 Preliminary Risk Assessment is an initial screening assessment designed to highlight any sources of unexploded ordnance (UXO) with the potential to contaminate a given site.

The aim of the Stage 1 assessment is to identify or discount the need for further detailed research - a Stage 2 Detailed UXO Risk Assessment.

This desktop assessment has been researched and written by a dedicated Researcher / Risk Assessor and produced in accordance with the CIRIA C681 Guidelines: ‘Unexploded Ordnance, a Guide for the Construction Industry’ (published in 2009).

In preparation for this assessment, original wartime records, historic OS mapping and the *Brimstone UXO Sources Database* have been reviewed. The latter incorporates multiple datasets plotting the positions of a variety of domestic military sites and confirmed historic German bombing targets.

The Stage 1 Preliminary Risk Assessment considers the following:

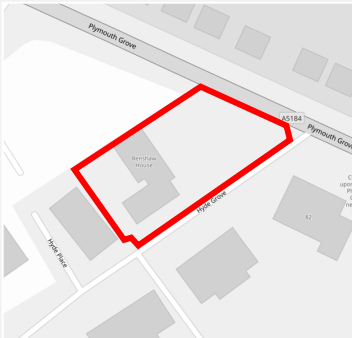
- 1. The Proposed Works
- 2. Enemy Action During WWI and WWII
- 3. British / Allied Military Activity
- 4. Historic Site Occupancy
- 5. Risk Mitigating Factors

THE SITE

The Site (approximately centred on National Grid Ref: SJ 85326 96377) is located in the Chortlon-On-Medlock district of Manchester, approximately 1km south-west of Ardwick railway station.

The Site encompasses Renshaw House, which is currently being utilised as student accommodation according to information provided by the client. Renshaw house itself comprises one single-storey and one two-storey structure. An area of open, undeveloped ground is also present in the eastern extent and an area of hardstanding in the western extent. Mature vegetation lines the perimeter of the Site.

It is bound to the north by open, undeveloped ground, to the east by Plymouth Grove, to the south by Hyde Grove and to the west by The Old Church.



THE PROPOSED WORKS

The Client has indicated the initial SI works have been completed at the time of writing.

Development works will comprise an approximate 100 bed student accommodation building up to a maximum of six storeys in height.

ENEMY ACTION DURING WWI AND WWII

Potential Source of UXO	Significant?	Details
WWI German Bombing	x	No raids affected Manchester during WWI.

WWII German Bombing	✓	British District Bombing Density Statistics	The Site is located within the WWII-era County Borough of Manchester which sustained 27.0 bombs / 1,000 acres, a low-to-moderate bombing density.
		Evidence of Bomb Strikes / Damage	A map compiled by Manchester City Council in 1940-1941 records two bombing incidents within an approximate 300m radius of the Site, both of which were incendiary bombs. The closest of these occurred approximately 150m north-west of the Site. It must be noted that it is anticipated that this map is not comprehensive of the entirety of bombing over Manchester during WWII. A map compiled by the Manchester Evening News using data from the Commonwealth and War Graves Commission catalogues deaths in Manchester from bombing raids during the Christmas Blitz, the largest bombing raid on Manchester by the Luftwaffe. This map records one death within an approximate 300m radius of the Site, which occurred approximately 240m west of the Site. Post-WWII aerial photography does not display any immediately obvious visual damage to the church on Site during WWII, although areas of structural clearance are visible approximately 90m north-west and 100m south-west of the Site. A comparison of pre- and post-WWII OS mapping shows evidence of structural clearance approximately 30m south-east and 90m north-west of the Site. The former of these areas is unlikely to be bomb-related structural clearance as no bombing incidents, damage or casualties were recorded on or nearby this structure in available mapping, although this cannot be confirmed. Note, areas of Manchester were subject to slum clearance, and it is possible that this was the reason for structural clearance in the vicinity of the Site. It is also possible that the clearance 90m to the north-west is related to the incendiary incidents recorded in available mapping, although this cannot be confirmed.
		Local Bombing Decoy Sites	None within a significant distance of the Site. The closest was located approximately 6.3km to the south-east.
		Local German Bombing Targets	Manchester was the subject of numerous Luftwaffe target dossiers. The closest identifiable target was a gas works located approximately 1.6km north-west of the Site. Railway infrastructure, located approximately 1km east, may have been identified as a target of opportunity.

WWII German Cross Channel Artillery Shelling	✗	n/a
BRITISH / ALLIED MILITARY ACTIVITY		
Potential Source of UXO	Significant?	Details
WWII Home Guard (HG) Activity	✗	Soldiers of the 48 th Lancashire (Manchester) HG Battalion may have been active locally during WWII. However, such troops are unlikely to have utilised the Site due to its developed nature.
Site Requisitioned for Wartime Military Use	✗	n/a
Existing or Historic Army or RAF Training Area / Weapons Range	✗	n/a
Existing or Historic Military Bases and Other Installations	✗	n/a
Existing or Historic Munitions or Explosives Factories	✗	n/a
Existing or Historic Military Defensive Fortifications	✗	n/a
WWII Light and / or Heavy Anti-Aircraft (LAA and HAA) Fire	✗/✓	Numerous (>30) permanent HAA batteries were active within range of the Site during WWII. Luftwaffe activity in the region was somewhat frequent. Therefore, these guns are likely to have fired a notable amount of ammunition in the vicinity of the Site. Given this, it is possible that an unexploded AA shell struck the Site, although this is considered unlikely due to the largely developed nature of the Site during WWII.
Pipe-Mined Locations and Beach Minefields	✗	n/a
UXO Finds	✗	n/a
SITE HISTORY		
What was the Site occupancy historically, especially during WWI and WWII?	During WWII, the Site was occupied by a church, as well as a small area of open, undeveloped ground in the eastern and western extents. It was bound to the north by residential structures and associated gardens, to the east by Plymouth Grove, to the south by Hyde Grove and to the west by a church.	
RISK MITIGATING FACTORS		
Post-Conflict Ground Works	Post WWII, the Site has seen relatively significant development, with the demolition of the church on Site during WWII. The client has provided information that indicates the church fell into disrepair by 1982 and was subsequently replaced in the 1980s by the two structures currently present on Site, although some small elements of the church remain extant in the present day. The demolition of the church and subsequent construction of the two buildings on Site may have disturbed up to shallow (1-2m bgl) WWII-era soil, whilst general maintenance	

	of vegetation and the laying of hardstanding may have disturbed up to very shallow (<1m bgl) WWII-era soil.
Likelihood of UXO Remaining	The risk associated with (any) UXO remaining at very shallow and shallow depths may have been partially mitigated. The risk of UXO remaining at deep (>2 m bgl) depths likely remains unmitigated.

CONCLUSIONS

German UXO:

- The Site was located in the WWII-era County Borough of Manchester, which sustained 27 bombs / 1,000 acres according to official Home Office bombing statistics, a low-to-moderate bombing density. The Site was located approximately 1.7km south-east of a gasworks that was identified by the Luftwaffe as a primary bombing target.
- Manchester City Council bomb plot & damage mapping records two IB bombing incidents within an approximate 300m radius of the Site, with the closest being approximately 150m north-west of the Site. A civilian casualty map covering the ‘Christmas Blitz’ records one death within an approximate 300m radius of the Site, which occurred approximately 240m west of the Site. No evidence indicating that the Site was subject to bombing has been identified at a preliminary stage.
- Post-WWII aerial photography and a comparison of pre- and post-WWII OS mapping does not display any immediately obvious evidence of bomb damage on Site or immediately adjacent, although possible areas of clearance were identified approximately 30m south-east and 90m north-west of the Site. Note, the former is not thought to be bomb-related as no evidence of bombing, damage or casualties were identified in sources available at a preliminary stage.
- The ground cover on Site is anticipated to have been conducive to the visual detection of UXO due to its developed nature. Evidence of bomb damage is likely to have been clear and obvious and will likely have been noticed and reported at the time. Furthermore, access levels are anticipated to have been frequent throughout WWII as a result of the church present on Site, as well as the lack of damage sustained. This further heightens the likelihood of a UXB strike being observed at the time.
- Additionally, some post-WWII development has taken place on Site, partially mitigating the risk of UXO remaining at very shallow and shallow depths, although it should be noted that as no deep intrusions are anticipated to have occurred post-WWII any deep buried UXB would feasibly remain in situ. However, the likelihood of such a scenario is not considered significant given the lack of evidence indicating the Site and its immediate surrounds were affected by bombing incidents.
- In summary, as no evidence of bombing / damage occurring on Site has been identified, combined with wartime ground cover being largely conducive to the visual detection of UXO and anticipated access levels having been frequent, the risk of encountering UXBs on Site is not considered to be elevated above the ‘background level’ for this area of the country.

British / Allied UXO:

- No evidence of significant military activity specifically on Site has been found and none is likely to have occurred.
- It is quite possible that an unexploded British AA shell struck the Site during WWII. Any incidents would likely be observed and dealt with at the time for the reasons mentioned above.

RECOMMENDATIONS

SI Works	A Stage 2 Detailed Risk Assessment is not considered necessary prior to works commencing. However, the possibility of UXO remaining on Site cannot be completely ruled out at desktop stage. Therefore, a UXO Safety Briefing to all personnel conducting ground works would be considered prudent.
Development Works	